

II. *Note on the Pediculus Melittæ of Kirby.*
By F. SMITH, Esq.

[Read 2nd February, 1852.]

As everything connected with the history of the genus *Meloë* must be highly interesting to the Entomologist, I have considered it desirable to lay before the Society a circumstance which, however perplexing it may appear, and however unsatisfactory it may be pronounced to be, is still intimately connected with an insect, the economy of which long proved a problem in natural history.

Mr. Newport, in his admirable paper on *Meloë*, published in the Linnean Transactions, mentions having found a larva resembling that of *Meloë* in form, but of a deep black colour, and having brown eyes, on a specimen of *Osmia spinulosa*; and he further observes, "this is certainly not the larva of either of the species of *Meloës* which I have observed;" although he says, "I am equally satisfied that it is the larva of some genus of the same family."

Now however probable this assumption may appear, and certainly it receives considerable support from the fact that the larvæ of several allied genera bear a striking resemblance to that of *Meloë*, still the assumption requires confirmation, based upon actual observation; for without such evidence we may hereafter learn that it was founded in error, so frequently do we see the early stages of one animal represented in the perfect state of another. M. Leon Dufour considered this animal to be an apterous perfect insect,* as also did Mr. Kirby, who named it *Pediculus Melittæ*. The opinion of Entomologists, generally, has been against these assumptions, but I think it will become a subject of greater perplexity than ever, and, at the same time, one of greater interest, when I relate the following observation.

On the 6th of April last, I visited a bank containing a colony of *Anthophora Haworthana*; at that period the bees were in a semi-torpid state, it being about six weeks earlier than their usual time of appearance. I placed a number of bees separately in pill boxes, and on examining them some days afterwards I was surprised to see several living specimens of the *Pediculus* running over the bees. This observation appears to me to render the question even more perplexing than before, or it is confirmatory

* Ann. des Sc. Nat. 1828.

of Leon Dufour's opinion, that these supposed larvæ are in fact perfect insects.

In the history of all parasites, with which I am acquainted, their development is simultaneous with that of the insects upon which they are parasitic; but here we have a supposed parasite, in a supposed early stage of development, found in company with the perfect bee upon which it is supposed to be parasitic; it is certain that as the *Anthophoræ* had never quitted their cells, the *Pediculi* must either have found their own way into the nest, or have been conveyed thither by the parent bee of the previous season.

Assuming the latter to be the case, we find a creature in every respect similar to those deposited, after twelve months have elapsed, neither changed in form or colouring, and Mr. Newport has shown, that although he found full grown larva of *Meloë* in plenty in the cells of *Anthophoræ*, he did not meet with any in earlier stages, so that it is reasonable to suppose that the larva of *Meloë* conveyed into the bees' cells arrives at the perfect condition by the following spring. Further observation will, I hope, enable me to elucidate this subject; in its present position I am inclined to regard the *Pediculus* as being a perfect insect, which resides in the nests of bees, feeding on the pollen, and depositing its egg and undergoing its metamorphoses in the cells of bees; in fact it may be regarded as an insect of similar habits to the *Acari* which infest Humble-bees, and live in great numbers in their nests, feeding on the honey and wax, and to be observed there during summer in various stages of development.

* In the Rev. W. Kirby's own interleaved copy of the "Monographia Apum Angliæ" I observed a manuscript note appended to the description of *Anthidium Manicatum* to the following effect:—"On opening one of the cells of this bee, I was surprised to observe a *Pediculus* exactly corresponding in form with the *Pediculus Melittæ*, but of a bright yellow colour." It does not state whether the cell contained a larva, a perfect insect, or any thing besides the *Pediculus*.
